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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,952	12/18/2000	Junichi Rekimoto	112857-251	4829

29175 7590 01/16/2004

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EXAMINER	
CHUONG, TRUC T	

ART UNIT	PAPER NUMBER
2174	

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,952	REKIMOTO, JUNICHI	
	Examiner	Art Unit	
	Truc T Chuong	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,15-28 and 30-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-28 and 30-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____. is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II (Claims 1-13, 15-28, and 30-35) in Paper No. 8 is acknowledged.

Claim Objections

Claims 1-13, 15-28, and 30-35 are objected to because of the following informalities: in claim 1, "stationarily" should be "stationary". Appropriate correction is required.

Other claims also have the similar problem, and all dependent claims are also objected because of their dependency.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13, 15-28, and 30-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Filo et al. (U.S. Patent No. 6,215,498 B1).

As to claim 1, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information space (col. 2 line 55-col. 3 line 37, figs. 5A-B, 7-10);

a display means for displaying an image on said operation surfaces (col. 3 lines 1-49);

an imaging means for picking up an image of said operation surfaces (canned images, col. 4 lines 1-34);

an environment type computer stationarily arranged in said information space (col. 3 lines 1-37 and col. 4 lines 1-57); and

one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (col. 7 lines 1-30, identification levels, col. 9 line 1-22 and col. 10 lines 10-61);

said environmental type computer being adapted to execute (col. 13 lines 1-42);

a processing operation of recognizing the identification information and the position information of each of said physical objects in said visual marker (col. 13 line 43-col. 14 lines 33);

a processing operation of recognizing the digital object dropped to a site on the surface of each of said physical objects (col. 15 line 29-col. 16 line 60, and figs. 10-11 and 13); and

a processing operation of forming link information for linking the digital object to the dropped site on the surface for each of said physical objects (col. 9 lines 1-23, col. 15 line 29-col. 16 line 60, and figs. 10-11 and 13).

As to claim 2, Filo teaches the information input/output system according to claim 1, wherein at least one of said physical objects is a portable computer capable of being moved in said information space and exchanging digital objects with other computers (canned images, col. 9 lines 1-23, col. 13 line 43-col. 14 line 24).

As to claim 3, Filo the information input/output system according to claim 1, wherein

at least one of said physical objects is a portable computer capable of being moved in said information space and exchanging digital objects with other computers (canned images, col. 9 lines 1-23, col. 13 line 43-col. 14 line 24); and

said environment type computer can expand a mouse/cursor operation on the installed portable computer onto said operation surfaces (point and click, col. 3 lines 1-49).

As to claim 4, Filo teaches the information input/output system according to claim 1, wherein

said imaging means can identify the position indicated by an optical pointer for indicating a specific position by irradiating a beam of light with a predetermined wavelength (three dimensional view of the distance, col. 11 lines 27-66); and

the user is allowed to indicate a position in said information space by means of coordinates and the optical pointer (col. 11 line 12-col. 12 line 21).

As to claim 5, Filo teaches the information input/output system according to claim 1, wherein said environment type computer executes a processing operation of calling the linked digital object and/or displaying the digital object to the user in response to a user operation applied to the site of forming the link information on the surface of each of the physical objects

on the basis of the image picked up by said imaging means (col. 15 line 29-col. 16 line 60, and figs. 10-11 and 13).

As to claim 6, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information space; a display means for displaying an image on said operation surfaces; an imaging means for picking up an image of said operation surfaces; an environment type computer stationarily arranged in said information space; one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (note the rejection of claim 1 above); and

a portable ID recognition device adapted to recognize/identify the visual marker on the surface of each of said physical objects (col. 3 lines 1-37 and col. 4 line 1-22).

As to claim 7, Filo teaches the information input/output system according to claim 6, wherein said environmental type computer is adapted to execute; a processing operation of receiving the identification information of the source object and that of the destination object from said ID recognition device (col. 7 lines 1-30, identification levels, col. 9 line 1-22 and col. 10 lines 10-61); and a processing operation of applying an action specified on the basis of the combination of the type of the source object and that of the destination object (col. 3 line 26 –col. 4 line 21).

As to claim 8, Filo teaches the information input/output system according to claim 6, wherein at least one of said physical objects is a portable computer capable of being moved in

said information space and exchanging digital objects with other computers (col. 9 lines 1-23, col. 13 line 43-col. 14 line 24).

As to claim 9, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information space; a display means for displaying an image on said operation surfaces; an imaging means for picking up an image of said operation surfaces; an environment type computer stationarily arranged in said information space; and one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (note the rejection of claim 1 above);

at least one of said physical objects being a virtual camera having a virtual imaging direction as specified by the position information contained in the visual marker (cameras, col. 9 lines 1-23, col. 13 line 43-col. 14 line 24).

As to claim 10, Filo teaches the information input/output system according to claim 9, wherein

said environmental type computer is adapted to execute (col. 9 lines 1-39);

a processing operation of recognizing/identifying said virtual camera and identifying the position information and the virtual imaging direction (col. 10 lines 10-61 and col. 14 lines 10-32);

a processing operation of generating a virtual picked up image according to the position information and the virtual imaging direction (figs. 10-11); and

a processing operation of displaying the virtual picked up image to the user (col. 14 lines 10-32, figs. 7, 10 and 11).

As to claim 11, Filo teaches the information input/output system according to claim 9, wherein at least one of said physical objects is a portable computer that can move in said information space and exchange digital objects with another computer (col. 9 lines 1-23, col. 13 line 43-col. 14 line 24, and figs. 7, 9-11).

As to claim 12, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information space; a display means for displaying an image on said operation surfaces; an imaging means for picking up an image of said operation surfaces; an environment type computer stationarily arranged in said information space; one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (note the rejection of claim 1 above); and

an optical pointer adapted to point a specific position by irradiating a beam of light with a predetermined wavelength (three dimensional view of the distance, col. 11 lines 27-66);

said imaging means being capable of identifying the position pointed by said optical pointer (col. 11 line 12-col. 12 line 21).

As to claim 13, Filo teaches the information input/output system according to claim 12, wherein

said environment image type computer executes on the basis of the picked up by said imaging means (canned images, col. 4 lines 1-34);

a processing operation of recognizing the user operation on said operation surfaces, using said optical pointer (col. 11 line 12-col. 12 line 21); and

a processing operation of controlling the display of the digital object by said display means according to the result of the recognition (col. 13 lines 43-67).

As to claim 15, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information pace; a display means for displaying an image on said operation surfaces; an imaging means for picking up an image of said operation surfaces; an environment type computer stationarily arranged in said information space; one or more than one portable computers capable of exchanging digital objects with other computers; one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (note the rejection of claim 12 above); and

a portable ID recognition device adapted to recognize the visual marker on the surface of each of said physical objects and being capable of holding or releasing the recognized identification information (col. 3 lines 1-37 and col. 4 line 1-22).

As to claim 16, Filo teaches the information input/output system according to claim 15, wherein

said environment type computer executes; a processing operation of obtaining a digital object corresponding to the held identification information in response to the holding operation of said ID recognition device (col. 3 lines 1-37 and col. 4 line 1-22); and

a processing operation of transferring a digital object corresponding to the held identification information to a nearby physical object in response to the releasing operation of said ID recognition device (col. 9 lines 1-23, and col. 10 lines 1-61).

As to claim 17, Filo teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said system comprising:

one or more than one operation surfaces arranged in said information space; a display means for displaying an image on said operation surfaces; an imaging means for picking up an image of said operation surfaces; an environment type computer stationarily arranged in said information space; one or more than one portable computers capable of exchanging digital objects with other computers; and one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof (note the rejection of claim 12 above);

said environment type computer being adapted to allow mouse/cursor operations on said portable computers to extend to said operation surfaces and display a rubber band as visual feedback according to the area on said operation surfaces as defined by means of said mouse/cursor (col. 10 lines 1-62, and figs. 7, 9-11).

As to claim 18, Filo teaches the information input/output system according to claim 17, wherein said environment type computer is adapted to pick up an image of the area defined by

the rubber band by means of said imaging means and take the picked up image in said information space as digital object (col. 10 lines 1-62, and figs. 7, 9-11).

As to claim 19, Fito teaches the information input/output system according to claim 17, wherein another object can apply a process or a method it possesses to the rubberbanded original digital object in response to an action of said original object of being dropped on said another object (col. 3 lines 1-37, col. 4 lines 1-21, col. 10 lines 1-62, col. and figs. 7, 9-11).

As to claim 20, Fito teaches the information input/output system according to claim 19, wherein said another object is a physical object possessing a process or a method for printing a document (printing documents, col. 10 lines 52-61).

As to claim 21, Fito teaches the information input/output system according to claim 19, wherein said another object is a name card possessing a process or a method for mailing a document to the mail address corresponding to the name on it (e-mail documents, col. 15 lines 55-67).

As to claim 22, Fito teaches an information input/output system to be used for user operations relating to an object in an information space realized by expanding a digital space of a computer into the real world, said information space having one or more than one operation surfaces arranged in said information space, a display means for displaying an image on said operation surfaces, an imaging means for picking up an image of said operation surfaces, an environment type computer stationarily arranged in said information space and one or more than one physical objects mounted on said operation surfaces and containing a visually identifiable visual marker on the surface thereof, said system comprising:

a step of firstly recognizing the identification information and the position information of each of said physical objects from the visual marker (canned images, col. 9 lines 1-23, col. 13 line 43-col. 14 line 24);

a step of secondly recognizing the digital object dropped to a site on the surface of each of said physical objects (col. 9 lines 1-23, col. 13 line 43-col. 14 line 24, and figs. 7, 9-11); and

a step of forming link information for linking the digital object to the dropped site on the surface for each of said physical objects (link objects, col. 9 lines 1-23, col. 15 line 29-col. 16 line 60, and figs. 10-11 and 13).

As to claim 23, Filo teaches the information input/output system according to claim 22, wherein

at least one of said physical objects is a portable computer capable of being moved in said information space and exchanging digital objects with other computers (note the rejection of claim 12 above); and

said environment type computer can expand a mouse/cursor operation on the installed portable computer onto said operation surfaces in said second recognition step (col. 9 lines 1-23, col. 13 line 43-col. 14 line 24, and figs. 7, 9-11).

As to claim 24, it is individually similar in scope to claim 4 above; therefore, rejected under similar rationale.

As to claim 25, Filo teaches the information input/output system according to claim 22, further comprising:

a step of calling the linked digital object and/or displaying the digital object to the user in response to a user operation applied to the site of forming the link information on the surface of

each of the physical objects (link objects, col. 9 lines 1-23, col. 15 line 29-col. 16 line 60, and figs. 10-11 and 13).

As to claim 26, it is individually similar in scope to claim 7 above; therefore, rejected under similar rationale.

As to claim 27, it is individually similar in scope to claim 1 above; therefore, rejected under similar rationale.

As to claim 28, it is individually similar in scope to claim 13 above; therefore, rejected under similar rationale.

As to claim 30, it is individually similar in scope to claim 16 above; therefore, rejected under similar rationale.

As to claim 31, it is individually similar in scope to claim 17 above; therefore, rejected under similar rationale.

As to claim 32, it is individually similar in scope to claim 18 above; therefore, rejected under similar rationale.

As to claim 33, it is individually similar in scope to claim 19 above; therefore, rejected under similar rationale.

As to claim 34, it is individually similar in scope to claim 20 above; therefore, rejected under similar rationale.

As to claim 35, it is individually similar in scope to claim 21 above; therefore, rejected under similar rationale.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dementhon et al. (U.S. Patent No. 5,297,061) teach visual displays, camera, drag and drop objects from/to different screens, links, and identification (cols. 2-12 and figs. 1, 3, 8 and 11).

Platzker et al. (U.S. Patent No. 5,528,263) teach GUI, 3D, camera, moving objects, links, and pointing devices (cols. 2-10 and figs. 1-5B).

Card et al. (U.S. Patent No. 5,838,326) teach 3D, drag and drop objects, id, and GUI (cols. 2-10 and figs. 2A-12).

Parsons (U.S. Patent No. 6,025,844) teaches drag and drop objects, GUI, target, different computers, and link relationship (cols. 4-12 and figs. 10-19D).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Truc T Chuong whose telephone number is 703-305-5753. The examiner can normally be reached on M-Th and alternate Fridays 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on 703-308-0640. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Truc T. Chuong
01/09/04

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